Waves

VOCABULARY 3.2

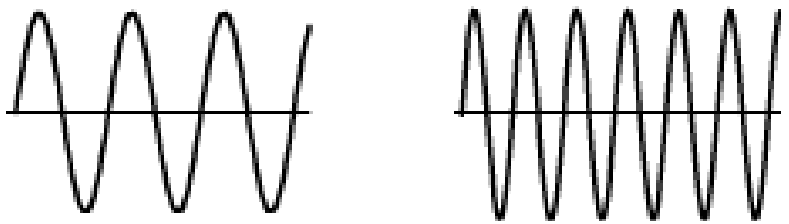
YOU NEED 11 INDEX CARDS

Medium

- The material through which a wave travels.
- Ex: Gas (air), liquids (water), and solids (Rope) can all be mediums.
- https://www.youtube.com/watch?v=w2s2fZr8sqQ

Pitch

- The pitch of a sound is determined by the rate of vibration, or frequency, of the sound wave.
- The faster the sound wave oscillates the higher pitch it will have.



Lower Pitch

Higher Pitch

Frequency

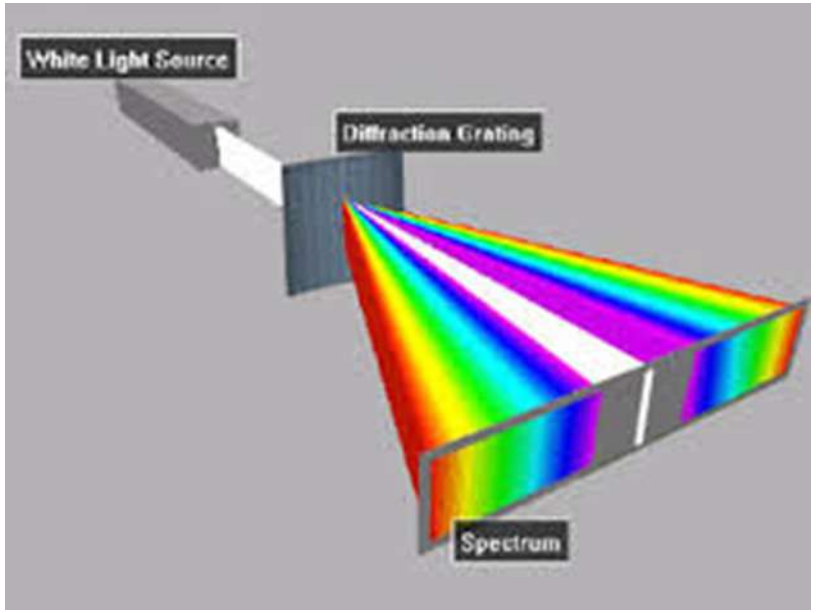
- A measurement of sound.
- This is how fast the sound wave is oscillating.
- This is different than how fast the wave travels through the medium.
- Frequency is measured in hertz.

Sound Properties (Amplitude, Period, Frequency, Wavelength) | Physics | Khan Academy

- https://www.youtube.com/watch?v=-_xZZt99MzY

Diffraction

- The bending of waves around corners that occurs when a portion of a wave is cut off by a barrier or obstacle.



Refraction

- The bending of waves due to the change of speed.
- Example: When a wave enters a new medium at an angle, one side of the wave changes speed before the other side. This causes the wave to bend. This does not always occur.

Refraction and Diffraction | GCSE Physics | Doodle Science

- https://www.youtube.com/watch?v=UR2rjO0TkU0

Loudness

- Sounds travel as waves of vibrations.
- The bigger the waves, the more energy they carry, and the louder they sound.

Speed of Sound

- The speed of sound is how fast the wave or vibrations pass through the medium or matter.
- The type of matter has a large impact on the speed at which the sound will travel.
- For example, sound travels faster in water than air. Sound travels even faster in steel.
- In dry air, sound travels at 343 meters per second (768 mph). At this rate sound will travel one mile in around five seconds. Sound travels 4 times faster in water (1,482 meters per second) and around 13 times faster through steel (4,512 meters per second).

Speed of Sound | Mechanical waves and sound | Physics | Khan Academy

- https://www.youtube.com/watch?v=UgE2GIQwUCw

Constructive Waves

- Is a type of interference that occurs at any location along the medium where the two interfering waves have a displacement in the same direction.

Destructive Waves

- Is a type of interference that occurs at any location along the medium where the two interfering waves have a displacement in the opposite direction.

- https://www.youtube.com/watch?v=BwyXFbSLNOo

Doppler Effect

- An increase (or decrease) in the frequency of sound, light, or other waves as the source and observer move toward (or away from) each other. The effect causes the sudden change in pitch noticeable in a passing siren.
- https://www.youtube.com/watch?v=h4OnBYrbCjY

Echo Location

- the location of objects by reflected sound, in particular that used by animals such as dolphins and bats.

- https://www.youtube.com/watch?v=vRHaFQo6fmk
- https://www.youtube.com/watch?v=BYiCzWZ8cBs

T.O.T.D

- In your own words, explain the Doppler Effect.
- Compare/Contrast Constructive and Destructive waves.